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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/680,113	10/05/2000	Thomas J. Cloonan	4807.00003	8209
7590	12/15/2004			EXAMINER SHANG, ANNAN Q
John L Doughty ARRIS International Inc 11450 Technology Circle Duluth, GA 30097			ART UNIT 2614	PAPER NUMBER

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/680,113	CLOONAN ET AL.	
	Examiner	Art Unit	
	Annan Q Shang	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 21 November 2002.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-27 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-27 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 10-12 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Liva et al (2002/0093966)** in view of **Clement (5,726,668)**.

As to claim 1, note the **Liva et al** reference figures 6 and 8, disclose enhanced a cable modem termination system (CMTS) for reliability, availability and serviceability and further discloses an apparatus for a CMTS having front (fig. 6) and rear sides (fig. 8), the front side accepting electronic circuit cards (Cards 100-1 to 100-8), electronic signals from which are transferred through connectors (200-2 to 200-8) mounted at the rear side, the connector panel comprising:

the claimed "a panel coupled to the rear side of the CMTS having at least first and second openings..." is met by cPCI midplane 40-70 (fig. 8 and page 4, [0061-0062]), which includes first openings and second openings (page 5, [0063]);

the claimed "a first connector extending through the first opening and operationally coupled to first electronic circuit card installed in the CMTS at the front..." is met by Input/Output Connectors 200-1 (fig. 10, page 5, [0064]) which extends through the first opening and operationally coupled to Lines Cards 100-1 "a first electronic circuit cards installed in the CMTS at the front side of the CMTS.

Liva further discloses processor(s) for monitoring the status of all the modules, managing chassis resources and configuring and controlling elements of the chassis, but fails to explicitly teach a light source, "a light emitting diode" visible through the second opening in the panel, the illumination status of which is determined by the first electronic circuit card.

However, note **Clement** reference figure 16, discloses a graphics display system including one or more display panels having a plurality of lights, where a microprocessor, logic establishes a correspondence between the current state of each of the process variables and transmits a signal to the corresponding light(s) on the panel to activate the light depending on the current state on the process variable (col. 14, line 66-col. 15, line 17).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Clement into the system of Liva to include a light source to determine the status of each I/O connectors and allow the operator to constantly monitor the connectors to quickly determine where problems or efficiencies exist and take the necessary action accordingly.

As to claim 2, Liva further discloses where the first connector is coaxial cable connector (page 1, [0012], page 4, [0088] and [0095]).

As to claim 3, Liva fails to explicitly teach where a light source which is remotely located from the second opening

However, Clement further teaches a light source LED1-LED6 which is remote from one end of a processing unit 212 or S1.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Clement into the system of Liva to provide a light source remote from one of the panels to enable the operator to easily monitor the status of the I/O connectors from a particular panel.

As to claim 10, note the **Liva et al** reference figures 6 and 8, disclose enhanced a cable modem termination system (CMTS) for reliability, availability and serviceability and further discloses a CMTS having front (fig. 6) and rear sides (fig. 8), the front side accepting electronic circuit cards (Cards 100-1 to 100-8), electronic signals from which are transferred through connectors (200-2 to 200-8) mounted at the rear side, the CMTS comprising:

the claimed “a panel coupled to the rear side of the CMTS having at least first and second openings...” is met by cPCI midplane 40-70 (fig. 8 and page 4, [0061-0062]), which includes first openings and second openings (page 5, [0063]);

the claimed “a first connector extending through the first opening and operationally coupled to first electronic circuit card installed in the CMTS at the front...” is met by Input/Output Connectors 200-1 (fig. 10, page 5, [0064]) which extends through the first opening and operationally coupled to Lines Cards 100-1 “a first electronic circuit cards installed in the CMTS at the front side of the CMTS.

Liva further discloses processor(s) “controller” connected to Line Card(s) 100-1 through 100-N for monitoring the status of all the modules and associate channels, managing chassis resources and configuring and controlling elements of the chassis (page 4, [0060] and page 5, [0063]), but fails to explicitly teach a light source, visible

through the second opening in the panel, the illumination status of which is determined by the first electronic circuit card.

However, note **Clement** reference figure 16, discloses a graphics display system including one or more display panels having a plurality of lights, where a microprocessor, logic establishes a correspondence between the current state of each of the process variables and transmits a signal to the corresponding light(s) on the panel to activate the light depending on the current state on the process variable (col. 14, line 66-col. 15, line 17).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Clement into the system of Liva to include a light source to determine the status of each I/O connectors and allow the operator to constant monitor the connectors to quickly determine where problems or efficiencies exist and take the necessary action accordingly.

Claim 11 is met as previously discussed with respect to claim 2.

Claim 12 is met as previously discussed with respect to claim 3.

As to claim 19, note the **Liva et al** reference figures 6 and 8, disclose enhanced a cable modem termination system (CMTS) for reliability, availability and serviceability and further discloses a CMTS having front (fig. 6) and rear sides (fig. 8), comprising:

the claimed "a plurality of slots on the front side accepting electronic circuit cards" are met by Front Side cPCI midplane 10-30 (fig. 6 and page 4, [0058]) which accepts Line Cards 100-1 to 100-8, "at least one electronic circuit card;"

the claimed "a plurality of row of connectors on the rear side..." Input/Output (200-2 to 200-8) Connectors (fig. 10, page 5, [0064]), where each row connects corresponding connectors associated with the each slot on the front side.

Liva further discloses processor(s) "a controller" connector to each slot and Line Cards inserted into the slots, for monitoring the status of all the modules and active channels, managing chassis resources and configuring and controlling elements of the chassis, but fails to explicitly teach a light source, visible through the second opening in the panel, the illumination status of which is determined by the first electronic circuit card.

However, note **Clement** reference figure 16, discloses a graphics display system including one or more display panels having a plurality of lights, where a microprocessor, logic establishes a correspondence between the current state of each of the process variables and transmits a signal to the corresponding light(s) on the panel to activate the light depending on the current state on the process variable (col. 14, line 66-col. 15, line 17).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Clement into the system of Liva to include a light source to determine the status of each I/O connectors and allow the operator to constant monitor the connectors to quickly determine where problems or efficiencies exist and take the necessary action accordingly.

Claim 20 is met as previously discussed with respect to claim 2.

Claim 21 is met as previously discussed with respect to claim 3.

3. Claims 4-9, 13-18 and 22-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Liva et al (2002/0093966)** in view of **Clement (5,726,668)** as applied to claims 1, 10 and 19 above, and further in view of **Eckel et al (6,798,341)**.

As to claims 4-9, Liva as modified by Clement, teach where a plurality of light source, are associated with each connector (see Liva fig. 16), fail to explicitly teach a light emitting diode, an incandescent lamp, an optical fiber, a light pipe optically coupling light from a light source to the second opening, where different colors are illuminated from the light source to represent different types of channels and illuminated different colors.

However, note the **Eckel** reference figures 3, 13 and 16, discloses electrical sensors for a network based multi-function sensor and control device for sensing motion, temperature, humidity and ambient light, setting and controlling temperature and control relay and ballast loads, and further teaches light emitting diode (col. 22, lines 59-67 and col. 24, line 7-14); an incandescent lamp (col. 21, lines 41-50), an optical fiber and a light pipe (col. 9, lines 35-42 and col. 13, lines 36-48); where different colors are illuminated from the light source to represent different types of channels and illuminated different colors (col. 16, lines 25-34, col. 17, lines 60-67, col. 19, lines 10-23 and lines 48-62), which indicates the status of various conditions within a device or housing.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Eckel into the system of Liva as modified by Clement to provide light emitting diode, which draws less current to conserver power;

an incandescent lamp, which emits broader spectrum of wavelengths and less sensitive to interference, an optical fiber which has high coupling efficiency with light sources, a light pipe to transfer full spectrum light in both directions concurrently and different colors for the operator to differentiate between different status modes.

Claims 13-18 are met as previously discussed with respect to claim 4-9.

Claims 22-27 are met as previously discussed with respect to claim 4-9.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Budinger et al (6,574,110) disclose stackable slide system for modem devices.

Crew et al (6,532,550) disclose process protection system.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Annan Q Shang** whose telephone number is **703-305-2156**. The examiner can normally be reached on **700am-500pm**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **John W Miller** can be reached on **703-305-4795**. The fax phone number for the organization where this application or proceeding is assigned is **703-872-9306**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the **Electronic Business Center (EBC)** at **866-217-9197 (toll-free)**.



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